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TITLE: Heat-resistant masking material for coating -
comprises
a laminate of 2 thermoplastic sheets each
contg.
inorganic filler

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ABSTRACTED-PUB-NO: JP 05154423A

BASIC-ABSTRACT:

Masking material is a laminated sheet consisting of a thermoplastic sheet (a)
which contains 20-500 wt.% of inorganic filler and another thermoplastic sheet
(b) which contains 0-50 wt.% of inorganic filler.

Pref. the thermoplastic sheet is a polyolefin sheet, esp. a polypropylene sheet.

ADVANTAGE - The masking material can be formed into any shape, and hardly deforms even when heated.

Typically, (a) is 0.2-3 mm thick and (b) is 0.005-0.5 mm thick. A polyethylene, polypropylene, ethylene-propylene copolymer and other sheet are usable. The inorganic filler is CaCO₃, MgCO₃, BaSO₄, alumina, silica and others. A polypropylene sheet contg. 50 wt.% CaCO₃ and another polypropylene sheet contg. 10 wt.% CaCO₃ were laminated to each other under vacuum

CHOSEN-DRAWING: Dwg.0/44

TITLE-TERMS: HEAT RESISTANCE MASK MATERIAL COATING COMPRISE LAMINATE
THERMOPLASTIC SHEET CONTAIN INORGANIC FILL

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
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3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the masking material used in order to protect this predetermined location so that this paint may not be exerted on the predetermined location of a member in the case of paint.

[0002]

[Description of the Prior Art] If the part which protects is a field-like, masking material will prepare a binder layer in masking material, and will be attached in this part through this binder layer. Moreover, it is attached by preparing the insertion section in this masking material, and inserting this insertion section, if it is a pore. If it is tabular, an attachment slot will be established in masking material, it is attached by attaching this attachment slot in this part, and if it is convex, it will be attached by forming the fitting section in masking material and fitting this part into this fitting section. And this masking material is removed from this part after surface treatment, respectively.

[0003] Thus, as masking material, the thing made from the thermoplastics which mixed the inorganic filler is offered conventionally (JP,2-126966,A). Since this polyolefine is reinforced mechanically, thermal conductivity becomes high further and thermal resistance also improves by especially polyolefine being rich in solvent resistance also among thermoplastics ingredients, and mixing an inorganic filler, the above-mentioned masking material can carry out a reuse.

[0004]

[Problem(s) to be Solved by the Invention] However, if it was in the above-mentioned conventional masking material, when the inorganic filler was mixed to thermoplastics, the moldability fell, and there was a trouble which says that deep-drawing shaping is difficult.

[0005]

[Means for Solving the Problem] This design offers the masking material made from the laminating sheet with the thermoplastic sheet plastic which mixed the inorganic filler with the thermoplastic sheet plastic which mixed the inorganic filler 20 to 500% of the weight zero to 50% of the weight as above-mentioned conventional The means for solving a technical problem.

[0006] The thermoplastic sheets plastic used for this invention are thermoplastic sheets plastic, such as polyolefines, such as polyethylene, polypropylene, ethylene propylene rubber, and an ethylene-vinylacetate copolymer, a polyvinyl chloride, polystyrene, poly methacrylate, a polyvinylidene chloride, a styrene-butadiene copolymer, polyester, and a polyamide.

[0007] In this invention, it has solvent resistance as a desirable thermoplastic sheet plastic, in case a moldability is good and carries out abandonment processing by incineration, a toxic gas is not taken out, and there is a cheap polyolefine sheet, and the polypropylene sheet excellent in reinforcement and rigidity is still more desirable in a polyolefine sheet.

[0008] Elastomers, such as synthetic rubber, such as an acrylic elastomer, styrene-butadiene elastomer, acrylonitrile-butadiene elastomer, SBS block-copolymer, and ethylene-propylene elastomer, and natural rubber, may be mixed by this polyolefine sheet.

[0009] The inorganic filler with which the above-mentioned polyolefine is filled up is the powder of minerals, such as a calcium carbonate, a magnesium carbonate, a barium sulfate, calcium sulfite, a magnesium hydroxide, an aluminum hydroxide, magnesium oxide, titanium oxide, an iron oxide, a zinc oxide, an alumina, a silica, diatomaceous earth, a dolomite, gypsum fibrosum, talc, clay, asbestos, a mica, a glass fiber, a calcium silicate, Ben Knight, white carbon, carbon black, iron powder, aluminium powder, silica flour, a blast furnace slag, and fly ash.

[0010] For masking part discernment, it may be colored by a pigment, the color, etc., and the above-mentioned thermoplastic sheet plastic may be classified by color again, and may add the third components, such as a foaming agent like [further again] a flame retarder, a flame proofing agent, an insecticide, antiseptics, an antioxidant, an ultraviolet ray absorbent, a chemistry foaming agent, or a capsule mold foaming agent. These third components may be mixed and added by a kind or both two or more sorts.

[0011] Compatibility coatings, such as synthetic coating material containing affinity processing of the flame treatment which is made to carbonize this front face a little, and gives compatibility, vitriolization, the corona discharge treatment which a front face is rough-**(ed) and is carbonized a little, and quarternary ammonium salt, may be applied to the front face of the polyolefine sheet which mixed the above-mentioned inorganic filler.

[0012] As described above in this invention, an inorganic filler as an ingredient of masking material 20 - 500 % of the weight, Although a laminating sheet with the thermoplastic sheet plastic (it considers as Sheet B below) which mixed the inorganic filler with the thermoplastic sheet plastic (it considers as Sheet A below) mixed 30 to 200% of the weight desirably ten to 40% of the weight desirably zero to 50% of the weight is used The addition of the inorganic filler of this sheet B needs to be surely fewer than the addition of the inorganic filler of this sheet A.

[0013] the bilayer sheet S1 which carried out the laminating of Sheet A and the sheet B as this invention was shown in I although the laminating sheet S of this invention was illustrated to drawing 1 , the three-layer sheet S2 which sandwiched Sheet B among Sheets A and A, and three-layer sheet S3 which sandwiched Sheet A among Sheets B and B etc. -- it is used and the sheet which combined this sheet A and Sheet B with four or more layers further is also used. In the above-mentioned laminating sheet S, thickness of 0.2-3mm and Sheet B is usually set to 0.005-0.5mm for the thickness of Sheet A.

[0014] Although the approach of usually carrying out at the shape of the shape of a film and a sheet for manufacturing masking material with the thermoplastic sheet plastic which mixed the above-mentioned inorganic filler, performing a vacuum forming, and fabricating in a predetermined configuration is an approach which was most suitable for mass production method, press forming, blow molding, injection molding, etc. may be applied in addition to it.

[0015]

[Function] If an inorganic filler is mixed 20 to 500% of the weight to the above-mentioned thermoplastic sheet plastic, this thermoplastic sheet plastic will be reinforced mechanically, and thermal conductivity will also become high. Therefore, even if put to an about 150-degree C elevated temperature, this masking material hardly causes deformation. However, this moldability is complemented with the thermoplastic sheet plastic which mixed the inorganic filler zero to 50% of the weight although, as for this thermoplastic sheet plastic, a moldability falls. Furthermore, in case used masking material is incinerated, only the part of combustion energy which mixed the inorganic filler decreases. Moreover, in the case of a polyolefine sheet, a toxic gas does not occur.

[0016]

[Effect of the Invention] Therefore, in this invention, since the moldability of a thermoplastic sheet plastic is good, the masking material of various configurations can be manufactured, even if it uses masking material for the paint which moreover includes a heating process, this masking material can cause and carry out the reuse of the deformation, and waste of plastic material is prevented. Moreover, since the combustion energy generated in case used masking material is incinerated decreases, damage on an incineration equipment also decreases.

[0017]

[Example]

The masking material A masking material A is applied to the plate-like part which should paint a member and which does not come out. This masking material A is the bilayer sheet S1 with the polypropylene sheet B which mixed 10 % of the weight with the polypropylene sheet A which mixed 50 % of the weight of calcium carbonates shown in drawing 1 I for the calcium carbonate. It considers as an ingredient and is manufactured by the vacuum forming.

[0018] The 1st example of this invention is shown in drawing 2 - drawing 4 . drawing -- setting -- masking material (31) -- rectangular box-like body (31) A This body (31) A Adhesive layer (31) B formed in the inferior surface of tongue from -- becoming -- this adhesive layer (31) B Mold-release characteristic sheets (31) C, such as a polyethylene film, a polypropylene film, and a release paper, It is covered. This masking material (31) is an adhesive layer (31) B in this way. Mold-release characteristic sheet C (31) Since it is protected, a pile is also possible, and it is convenient for transportation and storage.

[0019] This masking material (31) is a member (1) as shown in drawing 3 . Part which should not perform plate-like paint (2) The mold-release characteristic sheet (31) C is stuck and protected after exfoliating. And it is this member (1) about a coating by the spray. Spray painting is carried out to a front face. this part (2) **** -- the pore may be prepared. In this case, the interior of a pore will also be protected by this masking material (31). Thus, paint film (4) After forming, as shown in drawing 4 , masking material (31) is exfoliated by an operator's hand before heat-treatment or after heat-treatment. The masking material (31) of this example consists of a laminating sheet which was described above, therefore a vacuum forming is easily possible for it, and a reuse is possible for it, without masking material (31) deforming after heat-treatment.

[0020] The 2nd example of this invention is shown in drawing 5 . It sets to the masking material (32) of this example, and is Body (32) A. It is a cylinder container-like and is this body (32) A. In an inferior surface of tongue, it is an adhesive layer (32) B. It is formed and is this adhesive layer (32) B. Mold-release characteristic sheet C (32) It is covered and corona discharge treatment is performed to this masking material (32) after shaping. This masking material (32) may be used for protection of the plate-like part of a member like the masking material (31) of the 1st example, and the pore may be prepared in this part. and the masking material of the 1st example -- the same -- a vacuum forming -- it is easy and reusable.

[0021] The 3rd example of this invention is shown in drawing 6 and drawing 7 . drawing -- setting -- masking material (33) -- rectangular box-like body (33) A This body (33) A Flange (33) B attached around the upper limb This body (33) A Adhesive layer (33) C formed in the inferior surface of tongue from -- becoming -- this adhesive layer (33) C Mold-release characteristic sheet (33) D It is covered. this masking material (33) -- the masking material (31) of the 1st example -- the same -- member (1) Plate-like part (2) although applied, it is shown in drawing 7 -- as -- flange (33) B of this masking material (33) Paint film (4) since it is cut -- this masking material (33) -- this paint film (4) It can **** easily by an operator's hand, without being blocked. and the masking material of the 1st example -- the same -- a vacuum forming -- it is easy and reusable. As for this masking material (33), it is desirable to arrange two or more masking material (33) in all directions, and to carry out a vacuum forming in one from the above-mentioned laminating sheet, as shown in drawing 8 . In this case, flange B of masking material (33) (33) They are infeed or Slot (33) E to one side or both sides. It is made easy to prepare, to tear each masking material (33) by hand, and to take it. This flange (33) B Infeed or slot (33) E It may be formed in one at the time of the vacuum forming of masking material (33), and may be independently formed after a vacuum forming.

[0022] that drawing 9 indicates the 4th example of this invention to be -- it is -- the masking material (34) of this example -- bundle hand part (34) D rectangular box-like than a pars basilaris ossis occipitalis Rectangular box-like body (34) A made to stand up Adhesive layer (34) B formed in this body (34) A inferior surface of tongue from -- becoming -- this adhesive layer (34) B It is covered with the mold-release characteristic sheet (34) C. This masking material (34) is the bundle hand part (34) D, although used like the 1st example. Since it has, attachment and detachment become very easy. and the masking

material of the 1st example -- the same -- a vacuum forming -- it is easy and reusable.

[0023] The masking material B masking material B is applied to a part for the plate-like part which should paint a member and which does not come out, and heights. This masking material B is the three-layer sheet S2 with the polypropylene sheet B which mixed the polypropylene sheet A, 15 % of the weight of calcium carbonates, and 5 % of the weight of styrene-butadiene elastomers which mixed 80 % of the weight of calcium carbonates shown in drawing 1 RO. It considers as an ingredient and is manufactured by the vacuum forming.

[0024] The 5th example of this invention is shown in drawing 10 and drawing 11 . drawing -- setting -- masking material (35) -- square shape container-like body (35) A This body (35) A Flange (35) B formed in the upper limb periphery This flange (35) B Adhesive layer (35) C formed in the top face from -- becoming -- this adhesive layer (35) C **** -- mold-release characteristic sheet (35) D It is covered. This masking material (35) is the mold-release characteristic sheet (35) D, as shown in drawing 11 . It exfoliates and is Flange (35) B. Adhesive layer C on top (35) It minds and is a member (1). Part which should not perform plate-like paint (2) It sticks. And it is a paint film (4) by paint. After forming, an operator's hand removes this masking material (35). in addition, this part (2) **** -- the pore may be prepared. Furthermore, the masking material (35) of this example is a member (1) as shown in drawing 12 . These heights (21) may be protected by covering surface heights (21). the masking material (35) of this example -- a vacuum forming -- it is easy and the reuse after the heat under surface treatment also deforms and removes is possible.

[0025] As for being admired especially in the manufacture approach of the masking material (35) of this example, it is desirable to arrange two or more masking material (35) in all directions, and to carry out a vacuum forming in one from the above-mentioned polyethylene sheet, as shown in drawing 13 . in this case, mold-release characteristic sheet (35) D Infeed (35) E putting in -- further -- it -- corresponding -- flange (35) B of masking material (35) one side or both sides -- infeed or slot (35) F It is made easy to prepare, to tear each masking material (35) by hand, and to take it. This flange (35) B Infeed or slot (35) F It may be fabricated in one at the time of the vacuum forming of masking material (35), and may be independently formed after a vacuum forming.

[0026] The 6th example of this invention is shown in drawing 14 and drawing 15 . drawing -- setting -- masking material (36) -- cylinder container-like body (36) A this body (36) A Flange (36) B formed in the upper limb periphery further -- this flange (36) B it was formed in the periphery -- bending -- Section (36) E this flange (36) B Adhesive layer (36) C formed in the top face from -- becoming -- this adhesive layer (36) C **** -- mold-release characteristic sheet (36) D It is covered. This masking material (36) is the mold-release characteristic sheet (36) D. It exfoliates and is the adhesive layer C on the top face of flange (36) B (36). It minds, for example, is a member (1). Part which has a pore (22) (2) As it is stuck and is shown in drawing 15 after that, it is a paint film (4)-by-paint. Although formed-This paint-film (4) Flange B of this masking material (36) (36) The folding section (36) E Since it is cut, this masking material (36) is this paint film (4). It can **** easily by the hand, without being blocked. and the masking material of the 5th example -- the same -- a vacuum forming -- it is easy and reusable. in addition, this member (1) Part (2) **** -- a pore (22) does not need to exist.

[0027] The masking material C masking material C is inserted in the pore of a member, and protects this pore. This masking material C is a three-layer sheet with the polypropylene sheet B which mixed 5 % of the weight of acrylic elastomers with the polypropylene sheet A and 10 % of the weight of calcium carbonates which mixed 40 % of the weight of calcium carbonates and 10 % of the weight of styrene-butadiene elastomers shown to drawing 1 Ha, is made from the sheet which carried out corona treatment of the front face, and is manufactured by the vacuum forming.

[0028] The 7th example of this invention is shown in drawing 16 and drawing 17 . the masking material (37) of this example -- the insertion-on container section (37) A This insertion section (37) A Flange (37) B formed in an upper limb periphery from -- it becomes. This masking material (37) is a member (1) as shown in drawing 17 . By inserting in a pore (22) through the insertion section (37) A, the interior of this pore (22) is protected and it is Flange (37) B further. The perimeter of this pore (22) is protected. As paint shows to drawing 17 after inserting this masking material (37) in this pore (22), it is a paint

film (4). Although formed, in the interior of a pore (22), and the perimeter of this pore (22), it is this paint film (4). It is not formed, and this masking material (37) -- usually -- paint film (4) although an operator's hand removes after heat-treatment -- this masking material (37) -- a vacuum forming -- it is easy, and it does not deform by this heat-treatment, either, but a reuse is possible. Moreover, since corona discharge treatment is performed, the front face of this masking material (37) is a paint film (4). Adhesion with a masking material (37) front face is good, a reuse is hit, and it is a paint film (4). It seems that a piece peels and a perimeter is not polluted.

[0029] The 8th example of this invention is shown in drawing 18 . the masking material (38) of this example -- a pars basilaris ossis occipitalis -- bundle hand part (38) C The container-like insertion section (38) A made to stand up This insertion section (38) A Flange (38) B formed in an upper limb periphery from -- it becomes. This masking material (38) is the bundle hand part (38) C, although used like the 7th example. Since it has, the attachment and detachment to a pore become very easy. and the masking material of the 7th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0030] The 9th example of this invention is shown in drawing 19 and drawing 20 . the masking material (39) of this example -- the cylinder container-like insertion section (39) A This insertion section (39) A Flange (39) B formed in an upper limb This flange (39) B it is set up from a periphery -- starting -- Section (39) C from -- it becomes. This masking material (39) is the insertion section (39) A like the 7th example. It minds and is a member (1). Although inserted in a pore (22), it is Flange (39) B. The standup section C set up from a periphery (39) As shown in drawing 20 , it is a paint film (4). It is cut and balking of this masking material (39) is performed smoothly in this way. and the masking material of the 7th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0031] The 10th example of this invention is shown in drawing 21 . The masking material (310) of this example consists of a flange (310) B formed in the upper limb of the cruciform container-like insertion section (310) A and this insertion section (310) A, and the peripheral wall section (310) C set up from this flange (310) B periphery. This masking material (310) Although used like the 9th example, since the insertion section (310) A is a cross joint-like and an insertion section (310) A periphery does not contact a pore wall partially, desorption is easy, and an ingredient is reduced as compared with a cylinder container-like thing. and the masking material of the 7th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0032] The 11th example of this invention is shown in drawing 22 and drawing 23 . Masking material of this example (311) Container-like insertion section A (311) The upper collar section (311) B formed in the upper limb of this insertion section (311) A, and the peripheral-wall section C which hangs from this upper collar section (311) B periphery (311) The bundle hand part E which protrudes from the lower flange section (311) D presented from this peripheral wall section (311) C margo inferior, and this body (311) A base center section (311) Although it becomes this body (311) A base and this upper collar section (311) B from the ribs (311) (311) F and G formed, respectively and is used for them like the 8th example it is shown in drawing 23 -- as -- for example, member (1) Paint film (4) painted the lower flange section (311) D presented from the peripheral wall section (311) C margo inferior performs cutting much more completely -- having -- balking of the masking material (311) from a pore (22) -- therefore, it is carried out much more completely. moreover, this masking material (311) since it is reinforced with the ribs (311) F and G (311) of an insertion section (311) A base and the upper collar section (311) B, it is crushed, or it destroys -- having -- **** -- ** and the masking material of the 7th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0033] The 12th example of this invention is shown in drawing 24 and drawing 25 . Masking material of this example (312) It consists of the cylinder container-like insertion section (312) A which formed longitudinal-rib (312) C in the periphery, and a flange (312) B formed in this insertion section (312) A upper limb. This masking material (312) It is a member (1) as shown in drawing 25 like the 7th

example. Although inserted in a pore (22), it is this masking material (312). In order that longitudinal-rib (312) C may carry out a pressure welding to the wall of this pore (22) elastically, it does not drop out a paint front or during paint by vibration etc., and it is masking material (312) by this longitudinal-rib (312) C further. It is reinforced. and the masking material of the 7th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0034] The masking material D masking material D is applied to a part for the eaves-like part which should perform surface treatment of a member and which does not come out, and is manufactured with the same ingredient as the masking material A.

[0035] The 13th example of this invention is shown in drawing 26 and drawing 27. Masking material of this example (313) It consists of an attachment slot (313) B prepared from the opening edge of the cylinder container-like body (313) A and this body (313) A. The above-mentioned masking material (313) It is a member (1) as shown in drawing 27 through this attachment slot (313) B. It is attached in a part for an eaves-like part (23), this part (23) is protected from paint, and it is a paint film (4) in this part (23). It is not formed. After processing is this masking material (313). It is made to secede from this part (23) by hand. and a vacuum forming -- it is easy and reusable.

[0036] The 14th example of this invention is shown in drawing 28. The masking material (314) of this example consists of an attachment slot (314) B prepared from the opening edge of the rectangular box-like body (314) A and this body (314) A, and is used like the 13th example. and the masking material of the 13th example -- the same -- a vacuum forming -- it is easy and reusable.

[0037] The example which applied the above-mentioned masking material A, B, C, and D to rust-proofing sound isolation vibrationproofing processing of the reverse side of the floor (12) of the car body (11) of an automobile is shown in drawing 29 - drawing 34. The masking material of this invention is used for each part of A, B, C, D, and E of the reverse side of the floor (12) of a car body (11) in drawing 29. That is, it sets to drawing 30 and is the hole (22) A of the A section. It is a hole for inserting in the spring shaft of a front wheel. Hole (22) A The masking material (37) of the 7th example which belongs to the masking material C since the perimeter is the seat of a spring is used, and it is Hole (22) A. The inside and its perimeter are protected. drawing 31 -- setting -- bolt A for component mounting of the B section (21) **** -- the masking material (36) of the 6th example belonging to the masking material B -- using -- this bolt (21) A It protects. drawing 32 -- setting -- weep hole (22) C of the C section **** -- the masking material (38) of the 8th example belonging to the masking material C -- using -- this weep hole (22) C The interior is protected. drawing 33 -- setting -- bracket D for component mounting of the D section (23) **** -- masking material (313) of the 13th example using -- this bracket (23) D It protects. drawing 34 -- setting -- components mounting-stud hole (22) E of the E section **** -- the masking material (31) of the 1st example belonging to the masking material A -- using -- this **** hole (22) E The interior is protected.

[0038] The 15th example of this invention is shown in drawing 35 - drawing 39. Masking material of this example (315) It is used in order to protect the crevice of a member. Masking material (315) The same three-layer sheet S2 as the masking material B It is manufactured by carrying out the vacuum forming of the sheet with which the acrylic resin coating containing quarternary ammonium salt was applied to the front face, and consists of a body (315) A and an adhesive layer (315) B formed in this body (315) A external surface periphery. This masking material (315) The crevice applied is shown in drawing 37. drawing 37 -- setting -- (24) -- the air-intake of the bumper (13) lower part -- it is -- the air-intake (24) inside -- the stanchion (24) A of a pair -- (24) A Stud (24) B And stave (24) C It is prepared. This masking material (315) In order to **** in the inside configuration of such an air-intake (24), the stanchion fitting slots (315) C and C (315), the stud fitting slot (315) D, and the stave fitting slot (315) E are formed. In addition, the mold-release characteristic sheet, the protection film, etc. may be covered by the adhesive layer (315) B. Masking material (315) This mold-release characteristic sheet is stripped and used at the time of use. The above-mentioned masking material (315) Although it is attached in the air-intake (24) inside as shown in drawing 38 under the present circumstances, this masking material (315) the stanchion fitting slots (315) C and C (315) -- stanchion (24) A and (24) A of an air-intake (24) It fits

in. In a stud and the stave fitting slots (315) D and E (315), it is Stud (24) B. And stave C (24) It fits in and the peripheral surface of the masking material body (315) A is further stuck to this air-intake (24) through an adhesive layer (315) B. Thus, the masking material (315) A is ****(ed) and stuck to the inside configuration of an air-intake (24). masking material (315) after attaching in the air-intake (24) inside, it is shown in drawing 38 -- as -- spray (5) a coating -- spraying -- an air-intake (24) periphery -- painting -- the afterbaking -- carrying out -- paint film (4) although formed -- this paint film (4) Masking material (315) It is not formed in the air-intake (24) inside protected. After paint exfoliates masking material (315) from the air-intake (24) inside by an operator's hand, as shown in drawing 39 . this masking material (315) a vacuum forming -- it is easy, and it does not deform with heating after paint, either, but a reuse is possible. Moreover, this masking material (315) Since the compatibility coating is applied to the front face, it is a paint film (4). Masking material (315) Adhesion with a front face is good, a reuse is hit, and it is this paint film (4). It seems that a piece peels and a perimeter is not polluted.

[0039] The 16th example of this invention is shown in drawing 40 and drawing 41 . Masking material of this example (316) It is used in order to protect two or more heights of a member. This masking material (316) It consists of the fitting sections (316) B and B (316) which protrude from the body (316) A which is the vacuum-forming article of the same laminating sheet as the 15th example, and this body (316) A. This masking material (316) Member (1) As shown in two or more heights (25) which should not perform surface treatment at drawing 41 , it covers through the fitting sections (316) B and B (316), and these heights (25) are protected. and the masking material of the 15th example -- the same -- a vacuum forming -- it is easy and reusable, and a reuse is hit and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0040] The 17th example of this invention is shown in drawing 42 - drawing 44 . Masking material of this example (317) It is used in order to protect the flat-surface part of a member. This masking material (317) consists of a body (317) A which consists of the same laminating sheet as the 15th example, and an adhesive layer (317) B formed in this body (317) A rear face, and this adhesive layer (317) B is covered with the mold-release characteristic sheet (317) C. This masking material (317) As the mold-release characteristic sheet (317) C is removed and it is shown in drawing 43 , it is attached in the aperture (14) periphery (27) of an automobile (13) through an adhesive layer (317) B. It paints and heats in an automobile (13) after that, and is a paint film (4). It forms. when after paint exfoliates this masking material (317) from an aperture (14) periphery (27), since the periphery (27) of an aperture (14) was protected by masking material (317) during paint, it is shown in drawing 44 -- as -- this periphery (27) -- paint film (4) it forms -- not having -- moreover, this masking material (317) a vacuum forming -- it is easy, and it does not deform with heating after paint, either, but a reuse is possible. And a reuse is hit like the masking material of the 15th example, and there is no contamination of the perimeter by peeling of the piece of a paint film.

[0041]

[Translation done.]